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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 09/778,464
Filing Date: February 07, 2001
Appellant(s): CANO ET AL.

Robert M. O'Keefe
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed December 20, 2005 appealing from the Office action mailed January 18, 2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

WITHDRAWN REJECTIONS

The following grounds of rejection are not presented for review on appeal because they have been withdrawn by the examiner. Rejection of claims 1-26 under 35 U.S.C. §112, first paragraph.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

4,904,525 TANIGUCHI et al 02-1990

Claims 1-3, 5, 6, 10, 11, 13, 15, 18 and 20-24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Taniguchi et al (U. S. Patent 4,904,525).

Taniguchi et al disclose an anti-reflection optical article such as an optical lens (Col. 1, lines 10-12). Taniguchi et al's article comprises a substrat such as polystyrene, polycarbonates etc. (Col. 2, lines 37-44) coated with 0.5 μm to 20 μm thick hard coating (Col. 2, lines 55-65 and col. 3, lines 35-36), 10 nm to 500 nm thick (a first coat) fluorine containing organopolysiloxane based film (top layer) (Col. 3, line 41 to col. 5, line 44) and 1 nm to 30 nm thick second coat of a fluorine containing organopolysiloxane based film having F/Si ration less than 80% that of the top layer (Col. 7, line 59 to col. 8, line 29 and claims 1 and 7). The thicknesses of hard coat layer and first and second fluorine containing organopolysiloxane based film falls the claimed range (See col. 3, lines 35-36, 46-51, col. 8, lines 28-29). Taniguchi et al's hard coating composition is an epoxysilane hydrolysate based coating since y-glycidoxypropyltrimethoxysilane (i.e. epoxy silane) is hydrolyzed before preparing hard coating composition (Col. 9, lines 3-13). Taniguchi et al also disclose pre-treatment such as chemical treatment (Col. 8, lines 36-37), ion bombardment, oxygen plasma etc. (Col. 6, lines 18-40) of hard coating coated article. Taniguchi et al also disclose dip coating, spray coating etc. (Col. 9, line 48 to col. 11,line 30). Taniguchi et la disclose that the addition of organic silicon compounds of formula II in top layer results in improved scratch resistance, impact resistance, chemical resistance etc. of the combination of hard coat film and the top film

(top layer) (Col. 4, lines 8-15). Taniguchi et al disclose the reflectance of the surface of the optical article requires not more than 2.7% for anti-reflection property. Taniguchi et al also disclose the total reflectance of the both surfaces of the optical article not more than 5.4%, i.e., the transmittance of the whole optical article is not less than 94.6% (Col. 7, lines 59-66). Examples 1, 2, 5 and 6 show total transmittance of light 96.1% (for Examples 1 and 5) and 96.4 (for Examples 2 and 6), before and after treatment with plasma. Thus the optical article of Examples 1 and 5 has reflectance of light per face 1.95% and of Examples 2 and 6 has reflectance of light per face 1.8%. Taniguchi et al fail to disclose that hard coat is also abrasion resistant coating. However, in absence of claiming minimum level of required abrasion resistant, any hard coat deemed to have somewhat abrasion resistance. Taniguchi et al's second fluorine containing organopolysiloxane based coating deemed to have some anti-reflective properties since the optical article has less than 2.7% reflectance per face. Furthermore, person of ordinary skill in the art at the time of this invention made would have found it obvious to adjust abrasion resistance and anti-reflective properties of respective layers for desired application.

(10) Response to Argument

In regard to arguments relating to rejection of claims 1-26 under 35 USC §112, first paragraph is moot because after considering appellants convincing arguments, the Examiner has withdrawn the stated rejection.

In reference to rejection of claims 1-3, 5, 6, 10, 11, 13, 15, 18 and 20-24 under 35 U.S.C. §103(a) as being unpatentable over Taniguchi et al (U. S. Patent 4,904,525),

appellants argue that the Examiner assumes that the second fluorosilicone film acts as an anti-reflective film and the fluorosilicone top film as an impact-resistant primer interlayer. Taniguchi et al states that the second fluorosilicone film is an antistatic film and cannot be considered as an anti-reflective layer based on ROISIN Declaration showing reflection at least 4% per face as shown stacking 4 which include substrate/hard coat and the second fluorosilicone film. The reflection of 4% per face is much higher than 2.5% reflection per face, which is the upper limit value for considering the coating having anti-reflective properties.

These arguments are unpersuasive because in ROISIN Declaration stacking STACKING 2 correspond to Taniguchi et al's Example 1 and STACKING 3 correspond to Taniguchi et al's Example 5. As per Taniguchi et al the transmission of light (Tm) for both Examples 1 and 5 is 96.1%. Therefore the reflection value Rm is 1.95 (calculated as Rm = (100% - 96.1%)/2). In STACKING 4 of ROISIN Declaration, the hard coat has refractive index (n) 1.39 and thickness of 100 nm and the second fluorosilicone film has refractive index (n) 1.40 and thickness 1, 15, 30 nm. Thus STACKING 4 when compared with the STACKING 3, the STACKING 4 correspond substrate/top coat/second fluorosilicone film. That is hard coat having refractive index (n) 1.58 is not used in the STACKING 4. Thus the reflection of at least 4% per face for the second fluorosilicone film is not convincing evidence. For the proper comparison in STACKING 2 the anti-reflective coating having refractive index 1.39 should be replaced with the second fluorosilicone film having refractive index (n) 1.40 and F/Si = 0.04/1 of STACKING 4. Taniguchi et al clearly disclose that the combination of hard coat and the

top coat results in improved scratch resistance and impact resistance (Col. 4, lines 8-15).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

DSN

August 13, 2006.

D. S. NAKARANI
PRIMARY EXAMINER

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